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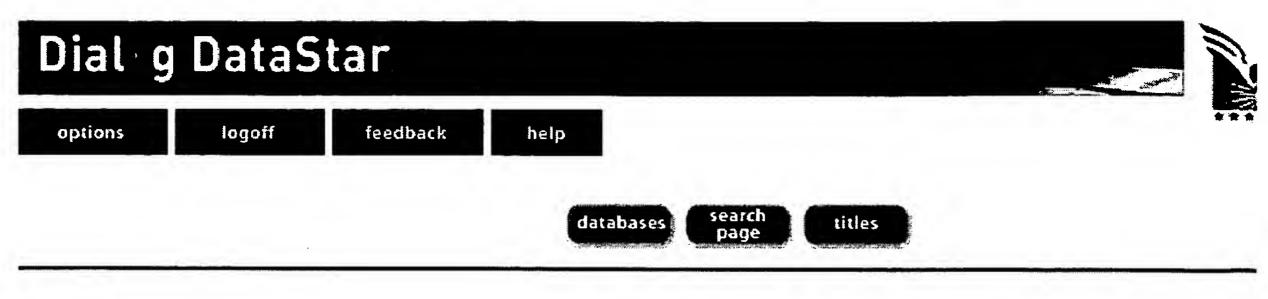
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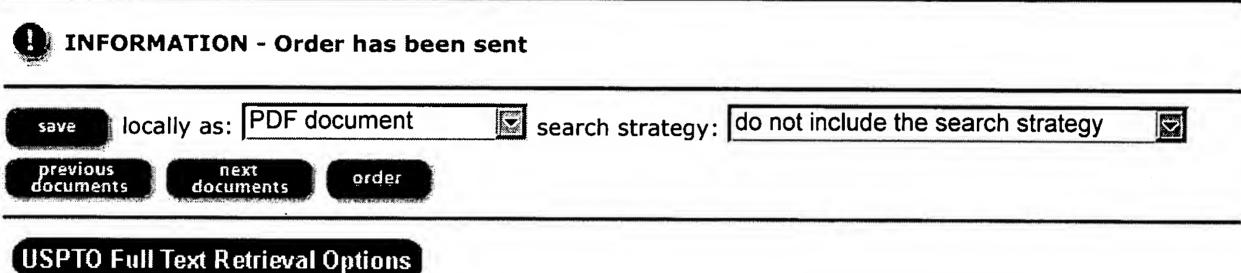
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Accession number & update

6377106, A1999-22-6148-002; 19991101.

Title

An alternative structure for C/sub 576/.

Author(s)

Cash-G-G.

Author affiliation

US Environ Protection Agency, Washington, DC, USA.

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Abstract

Carbon nanotubes with rollup vector indices equal, i.e., (n, n) nanotubes, are calculated to be metallic electrical conductors. Several years ago, a toroidal fullerene structure, C/sub 576/, was proposed and suggested to possess a small bandgap on the basis of its having approximately half of its atoms arranged as in a (4,4) nanotube. A more recent calculation determined that this structure has a very large anisotropic ring-current diamagnetic susceptibility and is therefore likely to be a good electrical conductor. The present work proposes an alternative structure for C/sub 576/ which is

constructed entirely from six copies of a C/sub 96/ fragment of a (4,4) nanotube. (21 refs).

Descriptors

carbon-nanotubes; fullerenes.

Keywords

alternative structure; C576; C **nanotubes**; rollup vector indices; metallic **electrical** conductors; toroidal fullerene structure; bandgap; anisotropic ring current diamagnetic susceptibility; C96 fragment; 4 4 nanotube.

Classification codes

A6148 (Structure of **fullerenes** and fullerene-related materials). A3640B (Geometrical structure of clusters).

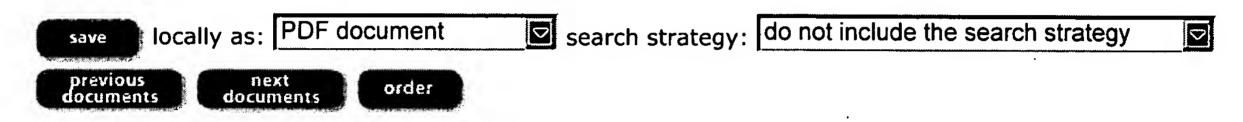
Chemical indexing

C576 el, C el.

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